STRUCTURE 82

This structure is a reinforced concrete, gated spillway with discharge controlled by two cable drum operated, vertical lift gates. Operation of the gates is automatically controlled in accordance with the seasonal operational criteria. The structure is located on Canal 41 about 500 feet downstream from its junction with C-41A and 5 miles downstream from Lake Istokpoga. A weir structure was constructed downstream to prevent erosion under high flow conditions.

PURPOSE

The structure will restrict discharges from Canal 41A into Canal 41 during periods when Canal 41 capacity is required for local runoff; but it permits up to 2,000 c.f.s. from Lake Istokpoga to be discharged down C-41 when downstream channel capacity is available. It permits agricultural releases into C-41 of up to 800 c.f.s. and maintains optimum upstream water stages in C-41A.

OPERATION

This structure will be operated, together with S-83, to maintain an optimum headwater elevation between 31.8 and 32.2, insofar as possible, through automatic controls as follows:

Flood Control Operation

When the headwater elevation rises to 32.2, the gates will open at 0.4 inches per minute;

When the headwater elevation rises or falls to 32.0, the gates will become stationary;

When the headwater elevation falls to 31.8, the gates will close at three inches per minute.

FLOOD DISCHARGE CHARACTERISTICS

	Design*	Standard Project Flood
Discharge Rate	2000 cfs	___ cfs
	* % SPF	___ % SPF
Headwater Elevation	32.5 feet	___ feet
Tailwater Elevation	30.9 feet	___ feet
Type Discharge	uncontrolled submerged	___

*Design not related to Standard Project Flood

Gate openings required for given flow conditions are larger than allowable.

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DESCRIPTION OF STRUCTURE

Type reinforced concrete, gated spillway

Weir Crest

Net Length 46.0 feet

Elevation 26.7 feet

Service Bridge Elevation 40.0 feet

Water Level which will by-pass structure 40.0 feet

Gates

Number 2

Size 7.2 ft. high by 23.7 ft. wide

Type vertical lift

Bottom elevation of gates, full open 33.8 ft. Normal

34.8 ft. Maximum

Top elevation of gates, full closed 33.9 ft.

Bottom of breast wall 33.5 ft.

Control automatic, upstream control and remote computer control

Lifting Mechanism

Normal power source commercial electricity

Emergency power source LP driven generator

Type Hoist direct drive motor, gear connected to cable suspension

Date of Transfer: October 16, 1967

ACCESS: from State Road 70 via access road on south side of C-41A

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital headwater and tailwater recorders

Gate Position Recorder Remote digital recorder on all gates

Other _____

DEWATERING FACILITIES

Storage West Palm Beach Field Station

Type needle beams and vertical aluminum needles

Size and Number (per bay)

Upstream

5 needles 4' x 20'

5 needles 4' x 22'

1 needle 2' x 20'

1 needle 2' x 22'

beam 12WF 53, 24'-11" long

Downstream

same number and size